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                          Per(3,6-anhydro)cyclodextrin derivatives, their
                          preparation, and their use for the separation or
                          fixation of anions based on manganese and chromium
INVENTOR(S):
                          Gadelle, Andree
PATENT ASSIGNEE(S):
                          Commissariat A L'energie Atomique, Fr.; Centre
                          National De La Recherche Scientifique Cnrs
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                                 20031219
                                            FR 2002-7205
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                                 20031224
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         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
         PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                          A1 20031231 AU 2003-250357
A1 20050309 EP 2003-760007
     AU 2003250357
     EP 1511774
                                                                       20030611
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
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                                            JP 2004-513337
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     US 20060014722
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PRIORITY APPLN. INFO.:
                                              FR 2002-7205
                                                                   A 20020612
                                                                  W 20030611
                                              WO 2003-FR1741
OTHER SOURCE(S):
                        MARPAT 140:52345
     Derivs. of per(3,6-anhydro) cyclodextrins having the general formulas (I)
     and (II) are prepared which can be used for the separation or fixation of
     chromate, dichromate and/or manganate anions from water or as a
     pharmaceutical complexing agent for humans. R1 in the general formulas I
     and II represents -OCONHR2, OH, OR3, SH, SR3, OCOR3, NH2, NHR3, NR3R4,
     CONH2, CONR3R4, CN, COOR3, OCH2COOH, or COOH, R3 and R2 represent an
     aliphatic, saturated or unsatd. group, R3 and R4 represent an aliphatic or aromatic
     hydrocarbon group which can be saturated or unsatd. and which can be
     substituted by halogen atoms or hetero atoms, such as O, S, and N, and n
     is 6, 7, or 8, or R1 represents the group OCONH(CR5R6)mNHCOOR7 with R5 and
     R6 being aliphatic saturated or unsatd. groups, and R7 represents glucosidic or
     maltosidic units of peranhydrocyclodextrin and m is a number from 1 to 20.
     Preferably, R1 of the per(3,6-anhydro) cyclodextrin derivative is -OCONHR2
     with R2 being an Et or hexyl group and n being 6. The per(3,6-anhydro)
     cyclodextrin derivs. are prepared by reacting per(3, 6-anhydro)
     cyclodextrins having the general formulas (III) and (IV) with an
     isocyanate OCN-R2 or a diisocyanate OCN(CR5R6)mNCO. Polymers are obtained
     by reacting at least two per(3,6-anhydro) cyclodextrin derivs. having the
     general formulas III and IV with n and m being 6 and R5 and R6 being H.
     For the removal of anions from water the per(3,6-anhydro) cyclodextrin
     derivative or polymer is dissolved in an organic solvent immiscible with water.
     636599-52-5P 636599-53-6P 636599-54-7P
     636599-55-8P 636599-56-9P 636599-57-0P
     636599-58-1P 636599-59-2P 636599-60-5P
     636599-63-8P 636599-64-9P 636599-65-0P
     636599-66-1P 636599-67-2P 636599-68-3P
     636599-69-4P 636599-70-7P 636599-71-8P
     636987-07-0P
                   6369<u>87-08-1</u>P
     RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);
     SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation);
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USES (Uses)

 $(per(3,6-anhydro)\,cyclodextrin\,derivs.,$ their preparation, and use for the separation or fixation of anions based on manganese and chromium)

RN 636599-52-5 CAPLUS

CN

 $\alpha\textsc{-}\textsc{Cyclodextrin}, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F-hexaanhydro-,hexakis(ethylcarbamate) (9CI) (CA INDEX NAME)$

PAGE 1-A

RN 636599-53-6 CAPLUS

 $\alpha\text{-Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F-hexaanhydro-, hexakis(hexylcarbamate) (9CI) (CA INDEX NAME)$

PAGE 1-B

RN 636599-54-7 CAPLUS

β-Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G-heptaanhydro-, heptakis(ethylcarbamate) (9CI) (CA INDEX NAME)

10517582

PAGE 1-A

N P

PAGE 3-A

EtNH-C-0

RN 636599-55-8 CAPLUS CN α -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F-hexaanhydro-, hexakis(hexylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-53-6 CMF C78 H126 N6 030

PAGE 1-B

$$-$$
 0 | C NH (CH2)5 - Me

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2 OCN-(CH₂)₆-NCO

RN 636599-56-9 CAPLUS

CN γ-Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G:3H,6H-octaanhydro-, octakis(ethylcarbamate) (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 1-B

PAGE 2-A

PAGE 2-B

RN 636599-57-0 CAPLUS

CN

 β -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G-heptaanhydro-, heptakis(hexylcarbamate) (9CI) (CA INDEX NAME)

PAGE 2-A

PAGE 2-B

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$$\text{Me-(CH}_2)_5 - \text{NH-C-O}$$

$$\begin{array}{c|c} \circ & R \\ \parallel & \parallel \\ \text{Me-} (CH_2) & 5 - NH - C - O \end{array}$$

RN 636599-58-1 CAPLUS

 $\gamma\text{-Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G:3H,6H-octaanhydro-, octakis(hexylcarbamate) (9CI) (CA INDEX NAME)$

PAGE 1-A

PAGE 1-B

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 2-B

RN 636599-59-2 CAPLUS

CN β -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G-heptaanhydro-, heptakis(ethylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-54-7 CMF C63 H91 N7 O35

PAGE 2-A

PAGE 3-A

EtNH-C-Ó

2 CM

CRN 822-06-0 CMF C8 H12 N2 O2

OCN-(CH2)6-NCO

RN

636599-60-5 CAPLUS γ -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G:3H,6H-octaanhydro-,octakis(ethylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-56-9 CMF C72 H104 N8 O40

PAGE 1-A

PAGE 1-B

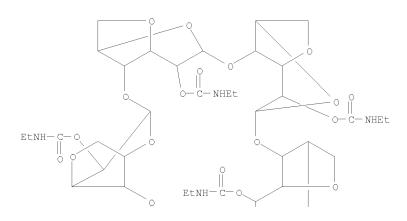
CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $ocn-(ch_2)_6-nco$

CN

RN 636599-63-8 CAPLUS



RN 636599-64-9 CAPLUS CN α -D-Mannopyranose, 0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-)40-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-)40-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-)40-0-3,6-anhydro-

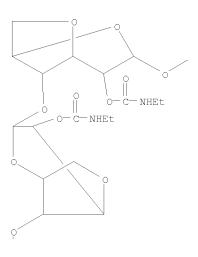
[(ethylamino)carbonyl] α D mannopyranosyl-(1>4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1>4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1>4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1>4)-, 2-(ethylcarbamate), cyclic 1,4'''-anhydride (9CI) (CA INDEX NAME)

PAGE 2-A

PAGE 3-A

EtNH-'C-0

RN 636599-65-0 CAPLUS
CN α -D-Mannopyranose, 0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-, 2-(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-, 2-(ethylcarbamate), cyclic 1,4''''-anhydride (9CI) (CA INDEX NAME)



PAGE 1-B

636599-66-1 CAPLUS

RN

CN α -D-Mannopyranose, 0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-

anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-, 2-(hexylcarbamate), cyclic 1,4''''-anhydride (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 1-B

636599-67-2 CAPLUS

RN α -D-Mannopyranose, O-3,6-anhydro-2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1+4)-O-3,6-anhydro-2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1+4)-O-3,6-anhydro-2-O- $\label{eq:carbonyl} \begin{subarray}{l} (\texttt{hexylamino}) \ \texttt{carbonyl} \begin{subarray}{l} -\alpha-\texttt{D-mannopyranosyl-(1}\rightarrow 4)-\texttt{O-3,6-anhydro-} \end{subarray}$

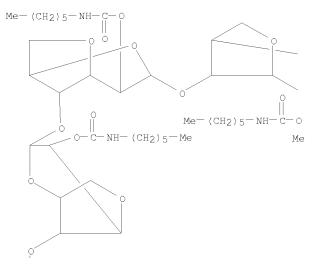
2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-O-3,6-anhydro-2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-O-3,6-anhydro-2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-, 2-(hexylcarbamate), cyclic 1,4''''-anhydride (9CI) (CA INDEX NAME)

PAGE 2-B

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$$\begin{array}{c|c} & \circ & R \\ & \parallel & \parallel \\ \text{Me- (CH2)} & 5-\text{NH-C-O} \end{array}$$

RN 636599-68-3 CAPLUS $\begin{array}{lll} & \alpha-D-\text{Mannopyranose, } 0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-\\ & D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\\ & \alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-\\ & [(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-3,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-0-2,6-\text{anhydro-}2-0-[(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-,2-(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow 4)-,2-(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1$



PAGE 2-B

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RN 636599-69-4 CAPLUS $\begin{array}{lll} \alpha-D-\text{Mannopyranose, } 0-3,6-\text{anhydro-}2-0-[\,(\text{hexylamino})\,\text{carbonyl}]-\alpha-\\ D-\text{mannopyranosyl-}\,(1\rightarrow\!4)-0-3,6-\text{anhydro-}2-0-[\,(\text{hexylamino})\,\text{carbonyl}]-\\ \alpha-D-\text{mannopyranosyl-}\,(1\rightarrow\!4)-0-3,6-\text{anhydro-}2-0-\\ [\,(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}\,(1\rightarrow\!4)-0-3,6-\text{anhydro-}2-0-[\,(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}\,(1\rightarrow\!4)-0-3,6-\\ \text{anhydro-}2-0-[\,(\text{hexylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}\,(1\rightarrow\!4)-,\\ 2-(\text{hexylcarbamate}),\,\,\text{cyclic 1,4''''-anhydride, polymer with}\\ 1,6-\text{diisocyanatohexane (9CI)} \end{array} \right. \label{eq:controller}$

CM 1

CRN 636599-66-1 CMF C78 H126 N6 030

PAGE 1-B

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2 RN 636599-70-7 CAPLUS

CN α -D-Mannopyranose, O-3,6-anhydro-2-O-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-O-3,6-anhydro-2-O-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-0-3,6-anhydro-2-O-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-, 2-(ethylcarbamate), cyclic 1,4''''-anhydride, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-64-9 CMF C63 H91 N7 O35

PAGE 1-A

PAGE 2-A

PAGE 3-A

EtNH-C-Ó

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

OCN-(CH₂)₆-NCO

RN 636599-71-8 CAPLUS $\alpha-D-\text{Mannopyranose, } 0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-0-3,6-\text{anhydro-}2-0-[(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-, 2-(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{mannopyranosyl-}(1\rightarrow4)-, 2-(\text{ethylamino})\,\text{carbonyl}]-\alpha-D-\text{man$

CM 1

CRN 636599-65-0 CMF C72 H104 N8 O40

PAGE 1-B

PAGE 2-A

EtNH-C-O

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $ocn-(ch_2)_6-nco$

RN 636987-07-0 CAPLUS

 $\alpha-$ Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F-hexaanhydro-, hexakis(ethylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CFINDEX NAME)

CM 1

CRN 636599-52-5 CMF C54 H78 N6 O30

PAGE 1-A

PAGE 2-A

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

OCN-(CH₂)₆-NCO

RN 636987-08-1 CAPLUS

CN α -D-Mannopyranose, 0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-0-3,6-

anhydro-2-0-[(ethylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-3,6-anhydro-, 2-(ethylcarbamate), cyclic anhydride, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-63-8 CMF C54 H78 N6 O30

PAGE 1-A

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

OCN-(CH₂)₆-NCO

RN

IT 636599-55-8DP, chromium complexes 636599-61-6P 636599-62-7P 636599-72-9P 636599-73-0P RL: SPN (Synthetic preparation); PREP (Preparation)

RL: SPN (Synthetic preparation); PREP (Preparation) (per(3,6-anhydro)cyclodextrin derivs., their preparation, and use for the separation or fixation of anions based on manganese and chromium) 636599-55-8 CAPLUS

N α -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F-hexaanhydro-, hexakis(hexylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA

INDEX NAME)

CM 1

CRN 636599-53-6 CMF C78 H126 N6 O30

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CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $OCN-(CH_2)_6-NCO$

RN 636599-61-6 CAPLUS

CN β -Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G-heptaanhydro-, heptakis(hexylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-57-0 CMF C91 H147 N7 O35

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PAGE 3-A

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $ocn-(ch_2)_6-nco$

RN 636599-62-7 CAPLUS

γ-Cyclodextrin, 3A,6A:3B,6B:3C,6C:3D,6D:3E,6E:3F,6F:3G,6G:3H,6H-octaanhydro-, octakis(hexylcarbamate), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-58-1 CMF C104 H168 N8 O40

PAGE 1-A

PAGE 1-B

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 2-B

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

OCN-(CH2)6-NCO

RN 636599-72-9 CAPLUS CN α -D-Mannopyranose, 0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-0-3,6-anhydro-2-0-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1 \rightarrow 4)-, 2-(hexylcarbamate), cyclic 1,4''''-anhydride, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 636599-67-2 CMF C91 H147 N7 O35

PAGE 2-A

O-C-NH-(CH₂)5-Me

Me-(CH₂)5-NH-C-O

O-C-NH-(CH₂)5-Me

PAGE 2-B

-NH-(CH₂)₅-Me

— Ме

$$\begin{array}{c|c} \circ & R \\ \parallel & \parallel \\ Me-(CH_2)_5-NH-C-0 \end{array}$$

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $ocn-(ch_2)_6-nco$

RN 636599-73-0 CAPLUS CN α -D-Mannopyranose, O-3,6-anhydro-2-O-[(hexylamino)carbonyl]- α -D-mannopyranosyl-(1-4)-O-3,6-anhydro-2-O-[(hexylamino)carbonyl]-

CM 1

CRN 636599-68-3 CMF C104 H168 N8 O40

PAGE 1-A

PAGE 1-B

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 2-B

CM 2

CRN 822-06-0 CMF C8 H12 N2 O2

 $OCN-(CH_2)_6-NCO$

REFERENCE COUNT:

6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT